

## **Southern University Nuclear Education Curricula Development Program (NECDP)**

### **Executive Summary**

Southern University, College of Engineering (SUBR), University of Tennessee, Department of Nuclear Engineering (UTNE), and the University of Missouri-Rolla, Nuclear Engineering program (UMR-NE) are requesting financial support to jointly develop training and education material for plant safety, health physics, power generation, environmental assessments and security of nuclear facilities. The proposed material will be developed as both curriculum and distance education modules suitable for both college credits at each respective institution, as well as for professional training of individual participants.

The fundamental goal of the SUBR-UT-UMR partnership is to develop university specific and computer-based educational materials that will support the nation's nuclear energy initiatives. Proposed modules will cover: a) Radiation Measurement and Dosimetry, b) Environmental Assessment, c) Neutron Activation Analysis (NAA) d) Environmental Sampling and Monitoring, e) Radioactive Waste and Material Control, and f) Health Physics - Environmental Toxicology, Criticality Safety, and Power Generation Lab. These new and enhanced teaching materials will be shared by the three institutions and will strengthen their nuclear program curricula in the areas of Nuclear Engineering, Radiochemistry and Radiobiology, Reliability and Risk Analysis, Environmental Protection and Nuclear Security.

This collaborative effort will improve nuclear educational infrastructure at two major nuclear engineering programs and support the development of nuclear curricula at a major Historically Black College (HBC). Resource sharing between the institutions will improve teaching competencies of nuclear faculty at the three universities. Moreover, innovative methods will be developed to remotely share research (nuclear safety-reactor and other laboratory infrastructure) to benefit a large group of students from across the country. Most importantly, the delivery of the new and collaborative teaching material will develop student and faculty skills within the nation's nuclear workforce. Distance Learning will allow students from any location in the country to become engaged in the educational and curricula enhancements resulting from this program. Students from any university in the United States, or any country, are also encouraged to participate in the web-based education program.

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